

Work Order ID 133807

Thursday, June 18, 2015 11:42:17 AM

133807

Page 1

Item ID: D3564-9 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Wearplate Fwd
Start Date: 6/18/2015 Start Qty: 20.00 ***20*** Cust Item ID:
Required Date: 6/18/2015 Req'd Qty: 20.00 ***20*** Customer:
Reference:

Approvals: Process Plan: ML3 Date: JUN 18 2015 Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3564	Rev D								
100	FLOW WATER JET	0.00							
100									
Waterjet	Memo	0.00							
FLOW CNC Waterjet	1-Cut as per Dwg D3564 ***** (D3564-1F) ***** Dwg Rev: <u>D</u> Prog								
	Rev: <u>D</u> 2-Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110									
QC	Memo	0.00							
Quality Control									
120	QC8- Inspect parts - second check	0.00							
120									
QC	Memo	0.00							
Quality Control									

DAS
9
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																				
OTHER : ☐																									

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* Brake NC	NC BRAKE	0.00			DAS 30 9-89	20			JUN 23 2015
Brake NC	Memo Deburr if necessary Form on Brake as per Dwg D3564 using Jigs DT 8129 and DT 8155 Form Joggle as per Dwg D3564 on brake using Jig DT 8157	0.00							
140 *140* QC	QC5- Inspect part completeness to step on W/O	0.00				(20)			DAS 38 9-89
Quality Control	Memo Ensure joggle as per dwg D3429	0.00							JUN 24 2015
150 *150* Large Fab	Large Fab	0.00				20			15-07-14 MAL
Large Fab	Memo Qty Description Batch A/R 2059B Hardcoat M129694 Weld hardcoat as per Dwg D3564	0.00							

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC10- Inspect visual per QSI004- ground welds	0.00							
160									DAS
QC	Memo	0.00							9
Quality Control									9-89
170	QC5- Inspect part completeness to step on W/O	0.00							
170									DAS
QC	Memo	0.00							9
Quality Control									9-89
180	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3	0.00							
180									
Powdercoat	Memo	0.00							
Powder Coating	START TIME: <u>8:40</u> FINISH TIME: <u>9:10</u>								

15-07-15 20 15-07-15 20 15-721 20

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				Lead hand / Supervisor Approval Verification	
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC3- Inspect Part Finish	0.00							
190									
QC	Memo	0.00							
Quality Control									
200	Identify as per dwg & Stock Location: FP-002	0.00							
200									
Packaging	Memo	0.00							
Packaging	LOCATION : FP002								
210	QC21- Final Inspection - Work Order Release	0.00							
210									
QC	Memo	0.00							
Quality Control									

(20)
DAS 38
JUL 27 2015

x20 *of 11/13/07/15*

15/7/27 *9*

SA 20150727

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Picklist Print

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Parent Item: D3564-9

D3564-9

Parent Item Name: Wearplate Fwd

Start Date: 6/18/2015

Required Date: 6/18/2015

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP Rev:A New Issue 07-03-08 ec
IPP Rev:B As per Rev C 07-07-09 JLM
IPP Rev:C As per Rev D 07-09-09 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued
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M304S16GA

Purchased

No

100

sf

229.3076

1.41

30

M304S16GA

**

06/18/15

304/316 Sheet .063

Location

Loc Qty

Loc Code

MAT019

229.3076

m131384

95.0176

m131503

134.29

DQA: _____ Date: _____



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Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																																																																
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OTHER :																																																																				

DART AEROSPACE LTD		Work Order:	133807
Description: Wearshoe		Part Number:	D3564-9
Inspection Dwg: D3564 Rev: D		Page 1 of 1	

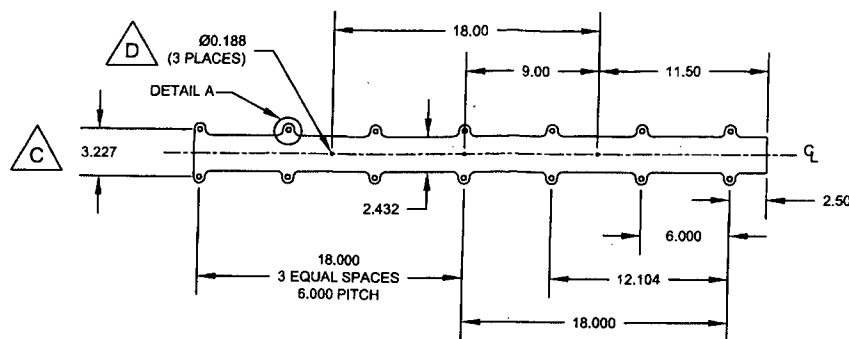
FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

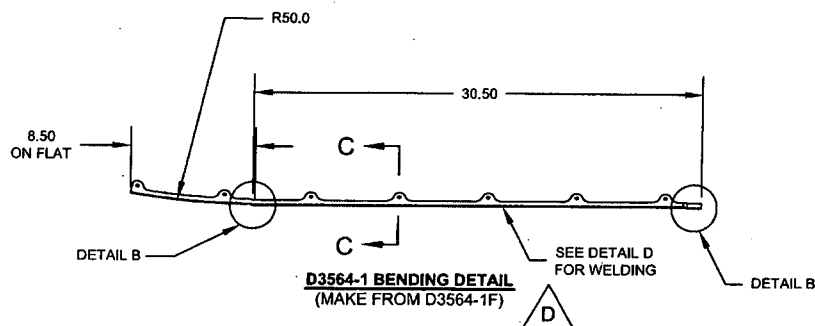
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
3.227	+/-0.010	3.225	/		V-DX-02	
2.432	+/-0.010	2.438	/		Tap	
2.50	+/-0.030	2.50	/			
6.000	+/-0.010	6.001	/			
12.104	+/-0.010	12.107	/			
18.000	+/-0.010	18.000	/			
18.000	+/-0.010	18.000	/			
18.00	+/-0.030	18.00	/			
9.00	+/-0.030	9.00	/			
11.50	+/-0.030	11.50	/			
0.300 x 0.300	+/-0.010	.301 x .301	/			
Ø0.188	+0.005/-0.001	Ø.189	/			
R0.375	+/-0.010	.375	/			
0.063	+/-0.010	.058	/			

Measured by: <i>De</i>	Audited by: <i>DAS</i>	Prototype Approval:	N/A
Date: <i>15/06/19</i>	Date: <i>15-06-23</i>	Date:	N/A

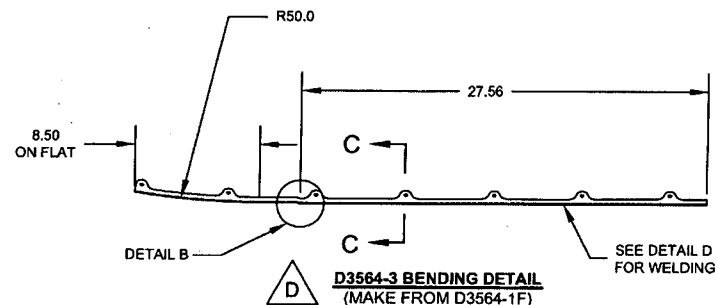
Rev	Date	Change	Revised by:	Approved
A	08.01.16	New Issue	KJ/EC/DD	<i>[Signature]</i>



D3564-1F FLAT PATTERN



**D3564-1 BENDING DETAIL
(MAKE FROM D3564-1F)**



**D3564-3 BENDING DETAIL
(MAKE FROM D3564-1F)**

D3564-1/-3/-5/-7/-9/-11/-13/-15 WEARPLATE NOTES:

- 1) MATERIAL: AISI 304/316 SS SHEET PER AMS 5513 OR AMS 5524, 16 GAUGE (0.063 THICK)
(REF DART MATERIAL SPEC M304S16GA)
- 2) FINISH: POWDER COAT GREY SANDTEX (REF 4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: SEE TABLE IN ZONE A3
- 8) WELD PER DART QSI 004
- 9) SEE PG 3 FOR SECTIONS AND DETAILS
- 10) PARTS ARE SYMMETRIC ABOUT $\bar{C}$

WEIGHTS:

D3564-1	1.85 lbs
D3564-3	1.85 lbs
D3564-5	1.93 lbs
D3564-7	1.26 lbs
D3564-9	1.85 lbs
D3564-11	1.85 lbs
D3564-13	0.38 lbs
D3564-15	0.80 lbs

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SUBJECT TO A MODIFICATION
WORK ORDER
NO. 133807 MLC
1506-18

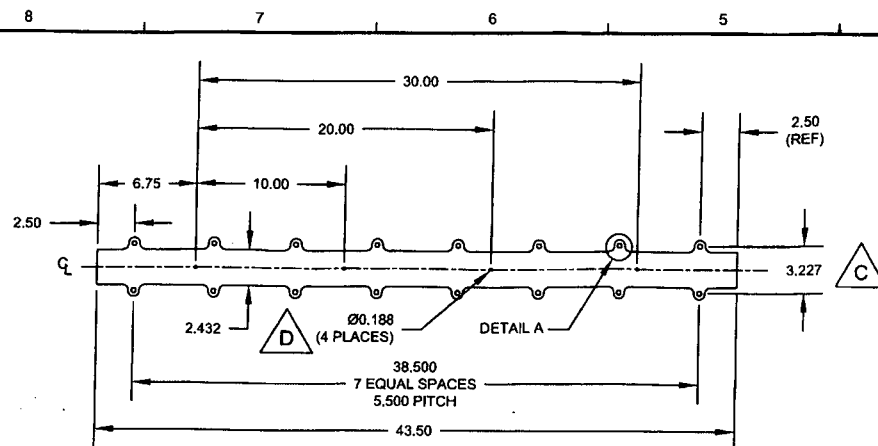
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07.09.04

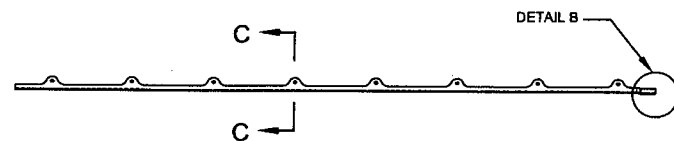
UNDER REVIEW

Trans change
OK 4/11/28

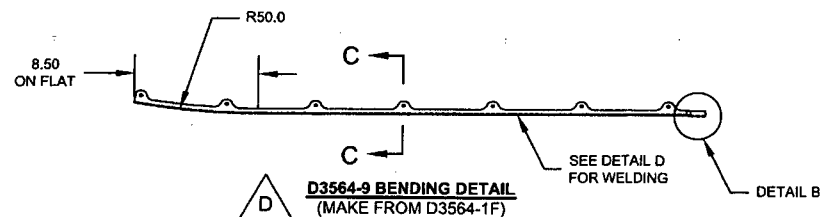
D	UPDATE DRAWING TEMPLATE; CHANGE ALL (TYP X PLS) TO (X PLACES); PG1 A8, PG3 B5,C5: ADD D3564-15; PG1 B6,B3: D3564-1/-3 WAS ONE FIGURE; PG2 A7,A3: D3564-9/-11 WAS ONE FIGURE; PG2 A7,A3: D3564-9/-11 WAS ON PG1; PG3 B8,C8: D3564-13 WAS ON PG2; PG3 D2: WELDING DETAIL WAS ON PG1 PG3 A5,7,B2: RELOCATE DETAILS AND SECTION; PG3 A5,7,B2: INCREASE DETAIL AND SECTION SIZE	CB	07.08.21
C	MOVE TAB OUTBOARD, DETAIL A	PH	07.04.17
B	ADD AMS 5513 AND AMS 5524	PH	07.03.20
A	NEW ISSUE	PH	06.12.18
REV.	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN	CB		
CHECKED	PH		
MFG. APPR.	2/		
APPROVED	2/		
DE APPR.	2/		
DATE	07.08.21		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D3564 REV. D SHEET 1 OF 3 SCALE WEARSHOE 1:8 COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			



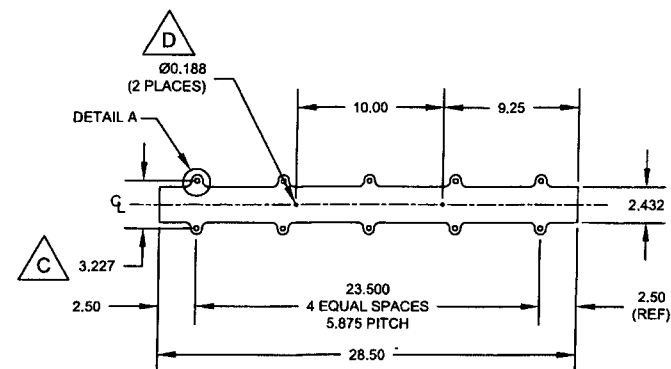
D3564-5F FLAT PATTERN



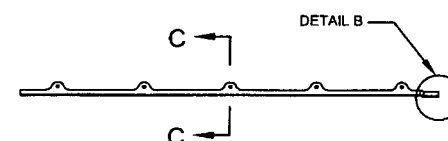
D3564-5 BENDING DETAIL
(MAKE D3564-5 FROM D3564-5F)



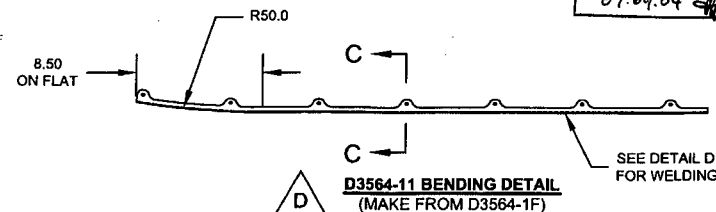
D3564-9 BENDING DETAIL
(MAKE FROM D3564-1F)



D3564-7F FLAT PATTERN



D3564-7 BENDING DETAIL
(MAKE D3564-7 FROM D3564-7F)



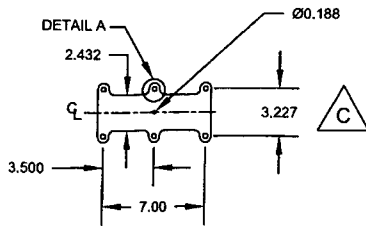
D3564-11 BENDING DETAIL
(MAKE FROM D3564-1F)

UNDER REVIEW
OK'd 11/11/28

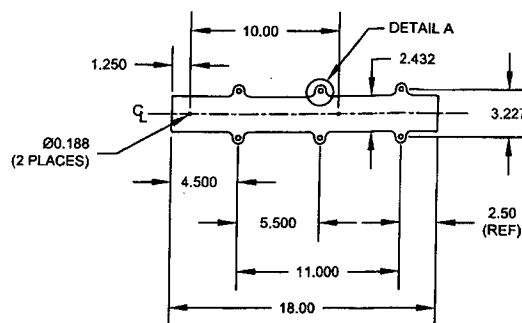
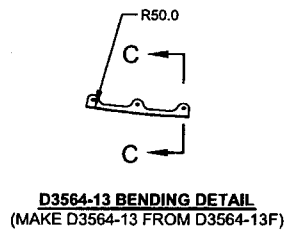
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DRAWN	CB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. D
MFG. APPR.	PH	D3564	SHEET 2 OF 3
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	WEARSHOE	1:8
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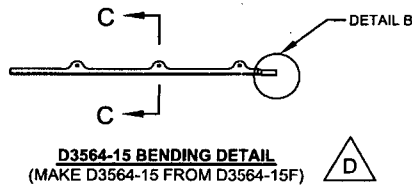
8 7 6 5 4 3 2 1



D3564-13F FLAT PATTERN



D3564-15F FLAT PATTERN



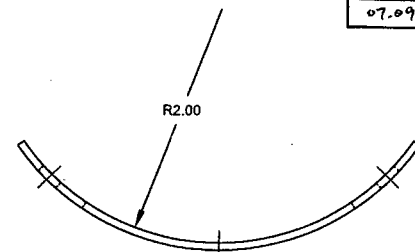
2059B HARDCOAT WELD 4.0 LONG 0.063 TO 0.125 HIGH
(11 PLACES)
WELD AFTER BENDING AS ILLUSTRATED PER DT8308



DETAIL D
(D3564-1/-3/-9/-11 WELDING DETAIL)

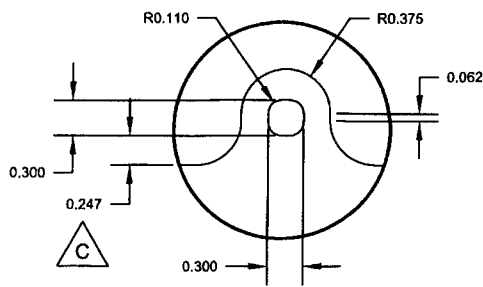
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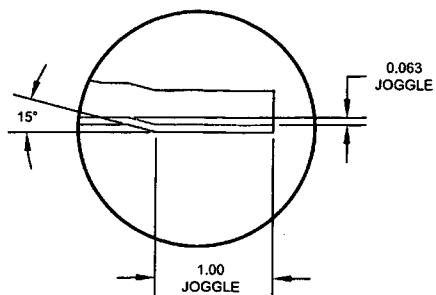


SECTION C-C
SCALE 1:1

UNDER REVIEW
OK 07.11.28



DETAIL A
SCALE 1:1



DETAIL B
SCALE 1:1

DESIGN	PH	DART AEROSPACE LTD	
DRAWN	CS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. D
MFG. APPR.	PH	D3564	SHEET 3 OF 3
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	WEARSHOE	1:8
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8 7 6 5 4 3 2 1